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ANNUAL REPORT

OF THE

INSPECTOR OF BUILDINGS,

For the Year 1881.

DEPARTMENT FOR THE SURVEY AND INSPECTION OF
BUILDINGS.

OFFICE OF THE INSPECTOR OF BUILDINGS,
CITY HALL, January 1, 1882.

To the Honorable the City Council of the City of Boston:—

GENTLEMEN, — In compliance with the provisions of Section 7 of Chapter 280 of the Laws of 1871, I have the honor to submit for your consideration a detailed report of the operations of this department for the year ending December 31, 1881.

The department has been one of increased activity the past year, as will be seen by examination of the records.

The aim is to have the records (which, by statute, are to be kept in detail) so kept that they may be of universal benefit to the public, a complete and bound transcript being made of each and every building, from the time of its erection to its completion; and, if altered, or damaged by fire or otherwise, the same is duly recorded, and readily referred to, being indexed and compiled; besides which, a diagram of each new building, locating drains, furnaces, etc., is filed with each final report, which contains an estimated cost of erection, alteration, addition, or damage.

The work of the department has been increased to a great extent, by the action of the Legislature of 1880, relating to

manufactories and buildings where operatives are employed. Chap. 197 of the Acts of 1880 requires two means of egress, by stairs, from all such buildings where five or more persons are employed in any room above the second story, or where women or children are employed above such a story. In order to ascertain whether any such buildings exist in violation of said chapter and acts, an examination and description and diagram are requisite before action is taken, so that better means of egress may be afforded, or a fire-escape located in the best possible position for escape in case of fire or panic.

The inspection of elevators and hoist-ways in all buildings in the city requires the attention of this department; accidents, serious and fatal, occurring often, further legislation is needed in this matter to control their construction and use.

The detailed workings of this department may be readily learned by examination of the accompanying report and tables.

Very respectfully, I am your obedient servant,

JOHN S. DAMRELL,

Inspector of Buildings.

Under the provisions of the statutes relating to buildings in the City of Boston, and under the provisions of the city ordinances relating to buildings, the department has supervision over the following matters :—

The erection of brick, stone, and iron buildings, under statute provisions, throughout the entire city limits.

The erection of wooden or frame buildings of limited dimensions and range, outside of the building limits, under the provision of the city ordinance.

Additions, alterations, and repairs upon all classes of buildings, with especial reference to their compliance with the present requirements of the building law.

The inspection of unsafe buildings and structures, with full power to require the securing or removal of the same, and in cases of immediate danger, where the security of the public is imperilled in life and limb, authority to enter upon, secure, or take down the same, as the exigencies of the public safety, in the opinion of the Inspector, may require.

The examination of buildings damaged by fire or accident, with authority to enter upon the premises and investigate the origin of fires.

The inspection of buildings liable to take fire from unsafe flues and heating apparatus.

The supervision and the protection of the building limits; the district in which the erection of independent wooden buildings is prohibited by statute law, with a limitation as to wharves.

Special authority invested in the Inspector of Buildings to issue permits for wooden and frame sheds, for special purposes, at his discretion, upon wharves situated within the building limits of the city.

The examination for the approval of plans of proposed tenement-houses, public and family hotels, with reference to their compliances with special statute provisions, regulating area for light and ventilation, material of construction, water-closets, drainage, cesspools, height of habitable rooms, window openings, hall-ways, construction of stair-ways, fire-escapes, and the height of the building as regulated by the width of the street upon which they are proposed to be erected.

The enforcement of statutory provisions requiring fire-escapes upon certain buildings in which operatives are employed, in factories, mills, or manufactories, tenement-houses, and hotels, etc.

Authority invested in the Inspector of Buildings, under the act relating to means of egress from buildings occupied for public purposes, to regulate the entrances, doorways, passage-ways, their width, construction, and number, and obstructions that may be placed therein, the arrangement of the seatings, and the use of combustible materials, draperies, scenery, properties, etc.

The inspection of all hoist-way and elevator openings in buildings, with reference to their construction in conformity with the requirements of statute law and their use.

Compliance with the requisitions of the Board of Health.

The setting of steam-engines and boilers.

The building of furnaces for melting iron, glass, or other metals.

The building of ovens, kilns, etc.

The setting of heating apparatus in all classes of buildings.

The examination of the grade of cellar bottoms of buildings built upon filled land; reporting violations of the same to the Board of Aldermen.

The storage of combustible material in buildings occupied in whole or in part as dwellings, situated within the building limits of the city.

Buildings authorized by the Board of Aldermen to be used

for stables are licensed to be occupied for this purpose, under the direction of the Inspector of Buildings.

The examination of buildings, with reference to their being provided with ample and sufficient means of egress, and their compliance with statute requirements, upon petition for license to occupy the same as a place of public amusement.

Examination of private signs located in the public highways, upon a petition to the Board of Aldermen to maintain the same, if secured satisfactory to the Inspector of Buildings.

Authority to apply to the Supreme Judicial Court for an injunction restraining the construction of windows, steps, and porches, projecting into or over any public highway.

The department the past year has been one of constant activity, and the office has been used largely as a consultation bureau by our capitalists, architects, and master-builders, in order that the law should be fully met.

Examinations of buildings, structures, etc., have to be made in all cases previous to issuing requisitions, permits, or notices; a diagram, and full description recorded of same; then examinations during their construction or alteration; a third examination, at its completion, as the final report, with the costs and facts in the case.

The following shows the operations of the department in detail: —

THE OPERATIONS OF THE DEPARTMENT.

The number of brick, stone, and iron buildings for which permits have been issued during the year	308
The number of wooden buildings for which permits have been issued during the year	787
The number of sheds situated upon wharves within the building limits of the city for which permits have been issued	13
The number of buildings for which permits have been issued to have additions built to them, or to have alterations and repairs made upon them	2,485
The number of steam-boilers, engines, etc., for which permits have been issued to set	252
The number of ovens, ranges, etc., for which permits have been issued to build	31

The number of kilns, kettles, etc., for which permits have been issued to build . . .	28
The number of furnaces, etc., for which permits have been issued to build . . .	85
The number of heating apparatus, for which notices have been received, with intention to put in . . .	561
The number of permits issued for the occupancy of streets, for building purposes . . .	1,405
The number of examinations made on new buildings, in process of erection . . .	6,913
The number of examinations made on buildings undergoing repairs, alterations, etc. . .	7,303
The number of special examinations made . . .	98
The number of examinations made on buildings, with reference to their means of egress in case of fire or panic . . .	1,242
The number of examinations that have been made on hoist-ways and elevators, with reference to their being provided with traps and rails . . .	291
The number of examinations made with reference to the setting of steam-boilers . . .	517
The number of examinations made with reference to the setting of heating apparatus, . . .	422
The number of examinations made for sundry purposes . . .	290
The number of examinations made of signs, lanterns, transparencies, druggists' mortars and electric lights, located in public highways, upon a petition of the Board of Aldermen to maintain the same, if secured to the satisfaction of the Inspector of Buildings . . .	66
The number of examinations made of plans . . .	27
The number of examinations made on buildings damaged by fire, or accident, with reference to cause of same . . .	371
The number of reports made of buildings, walls, etc., in an unsafe and dangerous condition . . .	135
The number of reports made of chimneys in an unsafe and dangerous condition . . .	360
The number of reports made of flues in a defective condition . . .	1
The number of reports made of heating apparatus in an unsafe condition . . .	35

The number of reports made on boilers, furnaces, etc., in an unsafe condition	3
The number of reports made on buildings damaged by fire or accident	503
The number of reports made for sundry purposes	312
The number of notices issued on violations	498
The number of notices issued on unsafe buildings, walls, etc.	114
The number of notices issued on dangerous chimneys	264
The number of notices issued on insufficient egress and fire-escapes	119
The number of notices issued on boilers, furnaces, etc., in an unsafe condition	24
The number of notices issued on stables, with reference to license of same	4
The number of miscellaneous notices issued	399
The number of buildings, walls, etc., in an unsafe condition recorded	179
The number of chimneys in an unsafe and dangerous condition recorded	304
The number of defective flues recorded	6
The number of heating apparatus in an unsafe condition recorded	46
The number of violations recorded	1,872
The number of requisitions issued for better means of egress from buildings. (Special)	295
The number of notices issued for better means of egress from buildings. (General)	284
The number of cases referred to the City Solicitor	22
The number of brick buildings completed, and upon which final reports have been rendered	103
The number of wooden buildings completed, and upon which final reports have been rendered	300
The number of buildings upon which repairs, alterations, and additions have been completed during the year	1,957
The number of steam-boilers, engines, etc., set, and furnaces, ovens, ranges, etc., built,	340
The number of heating apparatus set	378
The number of fire-escapes completed during the year	108

Estimated cost of completed brick buildings .	\$1,521,852
“ “ “ wooden and frame buildings .	686,643
“ “ “ additions, alterations, and repairs .	935,765
“ “ setting steam-boilers, engines, etc., building furnaces, ovens, ranges, etc.,	315,233
“ “ setting heating apparatus .	65,032
“ “ securing unsafe buildings, etc.	3,951
“ “ securing dangerous chimneys	6,546
“ “ providing fire-escapes and additional means of egress,	10,284
“ amount of damage to buildings by fire is	132,653

The number of communications, notices, etc., received, referred, and acted upon 319

From City Council	51
Police Department	43
Surveyor's Department	40
Fire Department	11
Street Department	3
Board of Health	160
general communications	11

Total 319

PERMITS ISSUED FOR BRICK, STONE, AND IRON BUILDINGS.

Asphalt melting-house	1
Bake-house	1
Banking institution	1
Blacksmith shop	1
Boiler-houses	8
Boiler and dry house	1
Brewery	1
Car-house	1
Carriage-house	1
Charitable institutions	2
Dwellings	174
Dwellings and stores	5

Carried forward,

197

<i>Brought forward,</i>							197
Dwellings and stables	.	.	.	.	.	.	11
Dye-house	.	.	.	.	.	.	1
Engine-houses	.	.	.	.	.	.	2
Family hotels	.	.	.	.	.	.	18
Family hotels and stores	.	.	.	.	.	.	2
Founderies	.	.	.	.	.	.	2
Hotels	.	.	.	.	.	.	2
Lodge	.	.	.	.	.	.	1
Manufacturing	.	.	.	.	.	.	3
Mechanical	.	.	.	.	.	.	1
Mercantile	.	.	.	.	.	.	20
Medical College	.	.	.	.	.	.	1
Milk depot	.	.	.	.	.	.	1
Offices	.	.	.	.	.	.	2
Public buildings	.	.	.	.	.	.	5
Restaurant	.	.	.	.	.	.	1
Restaurant and storage	.	.	.	.	.	.	1
Sand drying-house	.	.	.	.	.	.	1
Seminary	.	.	.	.	.	.	1
Stables	.	.	.	.	.	.	8
Storage	.	.	.	.	.	.	11
Stores	.	.	.	.	.	.	2
Stores and offices	.	.	.	.	.	.	2
Tenement-houses	.	.	.	.	.	.	9
Tenement-houses and stores	.	.	.	.	.	.	1
Train-house	.	.	.	.	.	.	1
Varnish-shop	.	.	.	.	.	.	1
Total							<hr/> 308

Exhibit "A" will give the statement in tabular form.

Seminary . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	1	1
Stables . . . . .	.	.	.	2	.	.	1	.	.	3	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8
Storage . . . . .	.	.	.	.	3	.	.	.	.	1	.	1	1	1	1	2	.	.	.	.	.	.	.	1	.	1	.	11
Stores . . . . .	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Stores and Offices . . . . .	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Tenement houses . . . . .	.	.	.	.	1	.	1	.	.	4	.	.	.	.	.	1	1	.	.	.	.	.	.	1	.	.	.	9
Tenement-houses and Stores	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Train-house . . . . .	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Varnish shop . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1
Totals	5	1	6	4	6	7	3	2	12	177	14	6	9	.	4	5	8	4	9	13	7	3	2	1	1	308		

EXHIBIT B.

Showing the Styles of Roofs and the Number of Stories of the foregoing Buildings.

WARDS.	No. of Stories.							Style of Roof.			No. of Buildings.
	1	2	3	4	5	6	7	Man.	Flat.	P'ch.	
1 . . . . .	..	..	..	..	..	..	..	..	..	..	..
2	2	1	2	..	..	..	..	..	2	3	5
3	1	..	..	..	..	..	..	..	..	1	1
4	3	1	2	..	..	..	..	1	4	1	6
5	2	..	2	..	..	..	..	..	3	1	4
6 . . . . .	..	1	..	3	2	..	..	..	6	..	6
7	2	..	2	2	1	..	..	..	7	..	7
8	3	..	..	..	..	..	..	1	2	..	3
9	1	..	1	..	..	..	..	..	..	2	2
10	1	1	1	2	2	4	1	1	10	1	12
11	4	46	99	17	9	2	..	77	89	11	177
12	2	..	4	2	5	1	..	3	7	4	14
13	4	1	1	..	..	..	..	..	6	..	6
14	3	3	3	..	..	..	..	2	3	4	9
15 . . . . .	..	..	..	..	..	..	..	..	..	..	..
16	1	..	2	..	1	..	..	..	3	1	4
17	1	..	3	1	..	..	..	1	4	..	5
18 . . . . .	..	..	1	5	1	1	..	3	5	..	8
19 . . . . .	..	..	4	..	..	..	..	1	3	..	4
20	2	1	6	..	..	..	..	1	8	..	9
21	1	6	6	..	..	..	..	9	4	..	13
22	2	1	2	2	..	..	..	2	4	1	7
23	1	..	2	..	..	..	..	1	2	..	3
24	1	..	..	1	..	..	..	1	..	1	2
25 . . . . .	..	..	..	1	..	..	..	..	..	1	1
Totals	37	62	143	36	21	8	1	104	172	32	308

PERMITS ISSUED FOR WOODEN AND FRAME BUILDINGS.

Annealing-house	1
Blacksmith shops	4
Boat-house	1
Boiler-house	1
Car-houses	2
Carpenter-shops	4
Carpet cleaning factories	2
Carriage-houses	8
Churches	1
Coal-sheds	6
Coal and wood sheds	1
Cooper shop and wash-room	2
Cow barn	1
Drying-houses	2
Dwellings	457
Dwelling and storage	1
Dwellings and stores	16
Dye-house	2
Engine and boiler house	1
Engine, boiler, and mixing-house	1
Finishing cloth	1
Foundry	1
Grain chute	1
Greenhouses	13
Ice-house	1
Junk shop	1
Manufactories	9
Mechanical	10
Offices	9
Paint-shop	2
Pattern-shop	2
Piggeries	2
Play-houses	2
Poultry-houses	9
Pumping-stations	1
Railway-stations	2
Refining precious metals	1
Refrigeration	1
Restaurant	1
Saw-mills	2
School-house	1
Shed	1
Shoemaker's-shop	2

Carried forward,

589

<i>Brought forward,</i>										589
Smelting	.	.	.	.	.	.	.	.	.	1
Stables	.	.	.	.	.	.	.	.	.	76
Stable and carriage-house	.	.	.	.	.	.	.	.	.	1
Stable and coal-shed	.	.	.	.	.	.	.	.	.	1
Stable and shed	.	.	.	.	.	.	.	.	.	1
Stable and wagon-shed	.	.	.	.	.	.	.	.	.	1
Stone-cutting-shed	.	.	.	.	.	.	.	.	.	1
Storage	.	.	.	.	.	.	.	.	.	82
Stores	.	.	.	.	.	.	.	.	.	4
Summer-house	.	.	.	.	.	.	.	.	.	1
Tool-house	.	.	.	.	.	.	.	.	.	1
Tool-house and storage	.	.	.	.	.	.	.	.	.	2
Voting precinct	.	.	.	.	.	.	.	.	.	1
Wagon-sheds	.	.	.	.	.	.	.	.	.	14
Ward club-room	.	.	.	.	.	.	.	.	.	1
Watch-house	.	.	.	.	.	.	.	.	.	1
Whitesmith's-shop	.	.	.	.	.	.	.	.	.	1
Wood-sheds	.	.	.	.	.	.	.	.	.	8
Total										<hr/> 787

Exhibit "C" will give the statement in tabular form.

EXHIBIT C.

Showing the Number of Wood and Frame Buildings in each Ward for which Permits have been issued.

PURPOSE OF BUILDING.	WARDS.																									Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Annealing-house . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Blacksmith shop	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	4
Boat-house . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Boiler-house . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Car-house . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
Carpenter shops	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	4
Carpet-cleansing factories . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	2
Carriage-houses . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	..	..	1	4	..	8
Churches . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Coat-sheds	3	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	6
Coal and wood shed . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Cooper-shop and wash-room . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	2
Cow-barn . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Drying-houses . . . . .	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2
Dwellings	18	3	8	3	6	..	..	..	..	..	..	..	12	59	19	..	..	..	3	33	84	18	54	98	39	457

[illegible]

EXHIBIT C. — Continued.

PURPOSE OF BUILDING.	WARDS.																									Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Tool-house and storage . . . . .	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2
Voting precinct	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Wagon-sheds . . . . .	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	6	5	14
Ward club-room . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Watch-house . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Whitesmith's-shop . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Wood-sheds,	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	8
Totals	43	18	19	14	16	..	..	..	..	..	..	..	25	85	27	..	..	..	11	53	104	37	98	172	65	787

EXHIBIT D.

Showing the Styles of Roofs and the Number of Stories of the foregoing Buildings.

Wards.	No. of Stories.					Style of Roof.					No. of Buildings.
	1	2	3	4	5	Man.	Flat.	Pitch.	Hip.	Goth.	
1	27	16	. . .	. . .	. . .	10	7	26	. . .	. . .	43
2	7	8	3	. . .	. . .	3	11	4	. . .	. . .	18
3	6	4	9	. . .	. . .	. . .	16	3	. . .	. . .	19
4	5	3	5	1	. . .	. . .	10	4	. . .	. . .	14
5	4	8	4	. . .	. . .	. . .	12	4	. . .	. . .	16
13	9	3	13	. . .	. . .	. . .	20	5	. . .	. . .	25
14	28	41	16	. . .	. . .	32	33	19	1	. . .	85
15	5	14	8	. . .	. . .	6	13	8	. . .	. . .	27
19	6	4	1	. . .	. . .	2	8	1	. . .	. . .	11
20	20	33	1	. . .	. . .	6	11	35	2	. . .	54
21	17	78	6	. . .	. . .	10	6	66	16	3	101
22	12	19	8	1	. . .	5	23	12	. . .	. . .	40
23	47	50	6	. . .	. . .	1	16	81	5	. . .	103
24	67	95	4	. . .	. . .	9	13	114	29	1	166
25	22	41	1	. . .	1	1	6	56	2	. . .	65
Totals . . .	282	417	85	2	1	85	205	438	55	4	787

SPECIAL PERMITS.

The provisions of Section 1 of Chapter 260 of the Acts of 1872 prohibit the erection of independent wooden buildings within the boundaries of the district known as the building limits of the City of Boston, with certain exceptions as to wharves.

Wooden additions to existing buildings in this district can, however, be erected, with a limitation as to height and area to be covered.

These limits are established by the City Council under statute authority ; and by an ordinance approved July 8, 1871, were defined as follows : —

Beginning at the intersection of the centre line of Dover and Albany streets, thence running eastwardly through the centre of Dover street to the Harbor Commissioners' line ; thence around the northerly portion of the " City Proper," by the said Harbor Commissioners' line to a point on Charles river, opposite the centre line of Parker street or cross dam ; thence through the centre of Parker street or cross dam to a point opposite the centre of Ruggles street ; thence through the centre of Ruggles street to the centre of Washington street ; thence through the centre of Washington street to a point opposite the centre of Palmer street ; thence through the centre of Palmer and Eustis streets to the centre of Hampden street ; and thence through the centre of Hampden and Albany streets to the point of beginning.

The said district being shown by a shaded red line on a plan made by the City Surveyor, dated June 26, 1871, and deposited in the office of the City Surveyor.

The above ordinance, establishing the boundaries of the building limits, was amended April 6, 1878, by striking out after the words, " to a point on Charles river opposite the centre line of," the words, " Parker street or cross dam," and inserting in their place the words, " West Chester park as extended ; thence through the centre of West Chester park to its intersection with Boylston-street extension ; thence through the centre of Boylston-street extension to the centre of Parker street"; and after the words, " dated June 26th, 1871," insert the words, " as amended as shown by a shaded blue line on said plan." December 31, 1881, the following was passed : —

AN ORDINANCE TO AMEND AN ORDINANCE IN RELATION TO THE
REGULATION AND INSPECTION OF BUILDINGS.

Be it ordained by the Aldermen and Common Council of the City of Boston, in City Council assembled, as follows : —

SECTION 1. Section 1, of an ordinance in relation to the regulation and inspection of buildings, passed July 8, 1871, and amended April 6, 1878, is hereby repealed and the following enacted in place thereof : —

SECTION 1. The limits within which all buildings hereafter erected shall be required to conform to the provisions of Chapter 280 of the year eighteen hundred and seventy-one, are hereby established and defined as follows:—

Beginning at the intersection of the centre line of Dover and Albany streets, thence running eastwardly through the centre of Dover street to the Harbor Commissioners' line; thence around the northerly portion of the "City Proper," by the said Harbor Commissioners' line to a point on Charles river at the intersection of said line with a boundary line between Brookline and Boston; thence along said boundary line to a point opposite the centre of Longwood avenue; eastwardly to the centre of Bumstead lane; thence through the centre of Bumstead lane to the centre of Ward street; thence through the centre of Ward street to the centre of Parker street; thence through the centre of Parker street to Ruggles street; thence through the centre of Ruggles street eastwardly to the centre of Washington street; thence through the centre of Washington street to a point opposite the centre of Palmer street; thence through the centre of Palmer and Eustis streets to the centre of Hampden street; and thence through the centre of Hampden and Albany streets to the point of beginning.

The said district being shown by a shaded red line on a plan made by the City Surveyor, dated June 28, 1881, and deposited in the office of the City Surveyor.

Showing the whole number and purpose of buildings for which special permits have been issued:—

Carriage manufactory	.	.	.	.	.	.	1
Ice-house	.	.	.	.	.	.	1
Lunch-room	.	.	.	.	.	.	1
Storage of barrels	.	.	.	.	.	.	1
Storage of cars	.	.	.	.	.	.	1
Storage of coal	.	.	.	.	.	.	1
Storage of freight	.	.	.	.	.	.	3
Storage of lumber	.	.	.	.	.	.	2
Storage of lumber and dry-house	.	.	.	.	.	.	1
Storage	.	.	.	.	.	.	1
Total	.	.	.	.	.	.	13

EXHIBIT F.

*Showing the Number of Stories and Style of Roof in each Ward
of the foregoing Buildings.*

WARDS.	NO. OF STORIES.							STYLE OF ROOF.						No. of Buildings.
	1	2	3	4	5	6	7	Man.	Flat.	Pitch.	Hip.	Goth.	Sun.	
1. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6. . . .	4	.	.	.	.	.	.	.	4	.	.	.	.	4
7. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8. . . .	1	.	.	.	.	.	.	.	1	.	.	.	.	1
9. . . .	.	1	.	.	.	.	.	.	1	.	.	.	.	1
10. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
11. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
12. . . .	3	.	.	.	.	.	.	.	3	.	.	.	.	3
13. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
14. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
15. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
16. . . .	1	1	.	.	.	.	.	.	2	.	.	.	.	2
17. . . .	2	.	.	.	.	.	.	.	2	.	.	.	.	2
18. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
19. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
20. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
21. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
22. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
23. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
24. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
25. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals .	11	2	.	.	.	.	.	.	13	.	.	.	.	13

STEAM-ENGINES, BOILERS, OVENS, AND FURNACES.

Under the provisions of Section 18 of Chapter 371 of the Acts of 1872, this department has supervision of the setting of all steam-boilers and heating apparatus, and the building of ovens, furnaces, etc.

The prosecution of this work does not, however, involve an inspection of the boilers, with a view to ascertain their condition and safety, and, though frequently called to act for that purpose, it has no legal authority.

STEAM-ENGINES, BOILERS, FURNACES, ETC.

The number of steam-boilers, engines, furnaces, etc., for which permits have been issued during the year, is as follows: —

STEAM-ENGINES AND BOILERS, ETC.

Steam-engines	.	.	.	.	.	.	.	26
Steam-boilers	.	.	.	.	.	.	.	155
Steam-boilers and engines	.	.	.	.	.	.	.	66
Hot-air engine	.	.	.	.	.	.	.	1
Hot-water boilers	.	.	.	.	.	.	.	4
Total	.	.	.	.	.	.	.	252

OVENS, RANGES, ETC.

Bakers' ovens	.	.	.	.	.	.	.	11
Ovens	.	.	.	.	.	.	.	3
Japanning ovens	.	.	.	.	.	.	.	4
Chemical oven	.	.	.	.	.	.	.	1
Broiler	.	.	.	.	.	.	.	1
Ranges	.	.	.	.	.	.	.	11
Total	.	.	.	.	.	.	.	31

KILNS, KETTLES, ETC.

Chemical tanks	.	.	.	.	.	.	.	3
Kilns	.	.	.	.	.	.	.	13
Kettles	.	.	.	.	.	.	.	6
Coffee-roasters	.	.	.	.	.	.	.	4
Caldrons	.	.	.	.	.	.	.	2
Total	.	.	.	.	.	.	.	28

FURNACES, ETC.

Melting-furnaces	41
Blacksmith's furnace	1
Brick furnaces	8
Sad-iron heaters	2
Furnaces	10
Blacksmith's forges	22
Stereotype furnace	1
<hr/>	
Total	85
Grand Total	396

HEATING APPARATUS.

Furnaces, and other heating apparatus	561
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[illegible]

ALTERATIONS, ADDITIONS, AND REPAIRS.

The number of buildings for which permits have been issued to have alterations made upon them, and to have additions built to them, is 2,485, classified as follows:—

[illegible]

EXHIBIT H.

Showing the whole Number and Purpose of Buildings in each Ward for which Permits were issued for Repairs, Alterations, and Additions.

	WARDS.																									Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Boiler-houses . . . . .	..	2	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	1	..	..	7
Carriage-houses	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	2	..	..	1	1	7
Churches	1	..	..	..	..	1	1	..	1	..	..	1	1	..	..	1	..	..	3	..	2	1	..	3	2	13
Club-houses . . . . .	..	..	..	..	..	..	..	1	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	4
Dwellings	86	58	31	27	40	29	13	22	33	21	59	22	62	41	38	16	31	39	48	45	32	23	75	51	25	967
Dwellings and stores	13	22	4	10	11	14	17	3	5	7	..	10	23	14	13	13	4	3	9	5	3	4	6	6	2	221
Founderies	1	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	2	..	2	..	3	..	..	..	1	12
Greenhouses . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	1	5
Halls . . . . .	..	..	..	1	3	3	..	..	..	4	..	1	..	..	..	..	..	..	..	..	1	..	1	..	..	14
Hotels . . . . .	..	1	..	..	2	..	9	1	..	10	6	8	..	2	1	1	..	1	2	..	2	..	..	..	..	46
Lodging-houses	1	..	..	..	3	..	2	2	..	9	..	1	..	..	1	..	4	..	1	..	1	..	..	..	..	25
Manufactories	3	1	1	6	1	9	16	..	..	5	..	11	..	2	2	4	1	..	3	4	1	2	4	3	3	82
Mechanical	1	4	..	2	6	11	21	1	9	..	..	12	..	1	..	..	5	..	..	..	..	..	1	..	..	74
Mercantile . . . . .	..	3	..	..	..	37	28	..	..	71	..	54	..	..	..	4	2	..	3	..	2	..	..	..	2	206

EXHIBIT H. — Continued.

	WARDS.																									Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Mills . . . . .	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	8
Offices	2	5	..	2	2	8	1	2	..	11	..	5	..	1	3	1	..	..	..	3	..	..	1	..	2	49
Printing . . . . .	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	4
Restaurants . . . . .	..	..	..	..	..	2	3	..	..	3	..	1	..	1	..	..	2	..	..	..	..	..	..	..	..	12
School-houses	1	1	..	1	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	5	7
Sheds	2	2	2	1	1	1	..	1	5	..	..	..	..	..	2	1	2	..	1	2	..	1	1	1	1	31
Shops	1	2	1	..	2	3	3	..	1	..	..	1	2	1	..	..	3	..	1	1	1	3	..	7	2	35
Stables	16	5	7	15	16	1	9	2	13	..	6	4	7	10	14	3	4	4	6	13	11	10	35	19	15	245
Storage	5	11	5	6	4	6	5	4	3	..	3	4	6	4	6	2	2	3	2	5	3	5	9	4	..	107
Stores	1	3	1	2	3	4	8	..	1	14	3	10	2	..	1	1	1	..	3	2	1	..	7	4	..	72
Stations and freight-houses . . . . .	..	1	..	..	..	..	..	1	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	1	1	7
Tenement-houses	5	..	1	2	2	7	9	1	2	..	1	7	2	..	1	3	1	..	4	3	2	1	1	1	..	56
Theatres . . . . .	..	..	..	..	..	..	1	1	..	2	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	6
Miscellaneous	7	8	3	4	5	14	10	2	6	8	3	9	12	5	4	4	2	..	4	5	10	11	10	5	7	158
Totals	147	129	57	80	103	156	156	44	81	168	81	165	120	86	86	55	67	50	92	88	80	62	154	109	69	2,485

MEANS OF EGRESS AND FIRE-ESCAPE.

Under the provisions of the building-law, fire-escapes and sufficient means of egress are required in the following classes of buildings : —

Buildings in which operatives are employed in any of the stories above the second story.

Buildings occupied by two or more families on any floor above the second floor from the level of the street.

Hotels, boarding and lodging-houses, factories, mill or manufactory.

Buildings occupied in part, or in whole, for any public purpose.

All new buildings belonging to any of the above classes are especially examined in regard to their construction, with reference to fulfilling legal requirements in furnishing suitable and ample means of egress in case of fire or accident.

The number, location, arrangement, and width of the stair-ways ; the proposed number of occupants or operatives ; the proposed use of the building ; its proximity to other buildings, and the materials of which it is built, — all enter into consideration.

Old buildings altered to, or by occupancy brought to, be comprised in any of the above classes of buildings requiring fire-escapes, are also duly inspected, and the necessary means of escape are required, the same as if it was a new building.

Requisitions for fire-escapes have been made upon the following classes of buildings : —

Banks and offices	.	.	.	.	.	.	.	22
Foundry	.	.	.	.	.	.	.	1
Hotels	.	.	.	.	.	.	.	3
Lodging-houses	.	.	.	.	.	.	.	10
Manufacturing	.	.	.	.	.	.	.	99
Mechanical	.	.	.	.	.	.	.	39
Mercantile	.	.	.	.	.	.	.	52
Printing	.	.	.	.	.	.	.	4
Public buildings	.	.	.	.	.	.	.	4
School-houses	.	.	.	.	.	.	.	2
Tenement-houses	.	.	.	.	.	.	.	46
Miscellaneous	.	.	.	.	.	.	.	13
Total	.	.	.	.	.	.	.	295

EXHIBIT I.

*Showing the Number of Stories and Style of Roofs in each Ward
of the foregoing Buildings.*

WARDS.	No. of STORIES.						STYLE OF ROOF.					No. of BUILDINGS.
	1	2	3	4	5	6	Man.	Flat.	P'ch.	Hip.	Sun.	
1												
2				1					1			1
3												
4				7				6			1	7
5												
6			13	33	7	1	17	9	27		1	54
7			10	40	23	9	19	36	24	2	1	82
8				1			1					1
9					1	1	1	1				2
10			14	31	15	4	19	25	18		2	64
11												
12			6	25	15	3	7	36	6			49
13			1	4	2		1	6				7
14												
15												
16			2	3			1	2			2	5
17				10				8			2	10
18					1			1				1
19				1				1				1
20		8	2				8		2			10
21												
22												
23			1					1				1
24												
25												
Totals		8	49	156	64	18	74	132	78	2	9	295

EXHIBIT J.

Showing the whole Number and Purpose of Buildings in each Ward for which better Means of Egress have been ordered.

	WARDS.																									Totals.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Banks and offices	7	10	..	..	3	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	22
Foundry	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Hotels	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	3
Lodging-houses	4	2	..	..	3	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	10
Manufacturing	1	..	4	..	16	26	..	1	29	..	19	..	..	..	..	1	..	1	..	..	..	1	..	..	99
Mechanical	21	..	1	11	..	5	1	..	..	..	..	..	..	..	..	..	..	..	..	39
Mercantile	10	17	..	..	10	..	13	..	..	..	..	1	1	..	..	..	..	..	..	..	52
Printing	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Public buildings	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
School-houses	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tenement-houses	2	..	9	2	1	..	..	..	5	6	..	..	4	7	..	..	10	..	..	..	..	..	46
Miscellaneous	1	..	5	3	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	13
Totals	1	..	..	7	..	54	82	1	2	64	..	49	7	..	..	5	10	1	1	10	..	..	1	..	..	295

FIRE AND ACCIDENT RECORD.

The number of buildings that have been reported as
damaged by fire or accident 371

The probable causes were as follows : —

Alcohol vapors ignited by heat of boiler	1
Benzine in gas-pipe, explosion of	1
Boring hole in wood with hot iron	1
Careless use of inflammable material	1
Caught from adjoining building	42
Caught from pile of burning wool	1
Cause not ascertained	2
Chemicals, explosion of	1
Children playing with matches	12
Children setting fire to rubbish	1
Cinders from stove falling on floor	1
Clothing ignited by matches	2
Clothing ignited by contact with lighted lamp or candle,	2
Clothing ignited by contact with stove	1
Damage incurred by water, fire in adjoining building,	1
Defective chimney flues	15
Defective fireplaces	2
Defective furnace and setting	1
Defective grate and chimney	3
Defective stove-funnels	3
Derrick falling on roof	1
Fire-cracker falling on bed	1
Fire from steam-boiler raked on hearth	1
Fireworks falling on roof	3
Friction of machinery from overheating	1
Friction of naphtha extractor in contact with clothing,	2
Friction of pulleys and floor timbers	1
Fuel placed in oven to dry taking fire	2
Fuel too near boiler	1
Gas, explosion of	2
Gas-metre, explosion of	1
Hot-air pipes in contact with wood-work	2
Hot coals from grate falling on floor	2
Hot coals placed in wooden barrel	3
Hot coals placed on floor	1
Hot iron dropped in pile of rags	1
Hot iron placed in sawdust	1
Hot scrap-iron falling on floor	2
Incendiary	65
Kerosene oil, careless use of	1

Kerosene-oil lamp, breaking of	2
Kerosene-oil lamp, explosion of	16
Kerosene-oil lamp, upsetting of	5
Kettle of hot fat, boiling over stove	2
Lighted cigar or pipe placed against window-frame . .	1
Lighted cigar thrown in closet	2
Lighted gas-jet in contact with basket-work	1
Lighted gas-jet in contact with screen	1
Lighted gas-jet in contact with window-curtain	6
Lighted gas-jet in contact with wood-work	1
Lighted lamp in contact with clothing	1
Lighted lamp in contact with escaping gas	1
Lighted match dropped in closet	1
Lighted match falling on floor	9
Lighted match falling on pile of waste-paper	5
Lighted match in contact with clothing	3
Lighted match in contact with kerosene oil	1
Lighted match thrown among old material	4
Lighted match thrown in straw	2
Lighted match or cigar thrown in spittoon filled with sawdust	4
Lighted match thrown on bureau	1
Lighted match thrown on mattress	1
Lighted taper in contact with escaping gas	1
Lighted tobacco-pipe laid on bed	1
Lightning	2
Matches falling on floor and being stepped upon	1
Mice among matches	15
Nail-keg too near stove	1
Naphtha taking fire from lighted lamp	1
Overheated firebox	1
Overheated furnace	1
Overheated machine-shafts	2
Overheated stoves	2
Overheated stove-funnel	1
Rags placed in thimble-hole	2
Rekindling of previous fire	1
Sparks from a fire in Cambridge	1
Sparks from circular-saw	1
Sparks from chimney falling in brushwood	1
Sparks from chimney falling on roof	8
Sparks from fire under boiler falling in shavings	3
Sparks from fire under boiler falling on floor	1
Sparks from forge	4
Sparks from glass-melting furnace	1
Sparks from lighted pipe or cigar	9
Sparks from locomotive	1

Sparks from plumber's furnace	1
Sparks from soldering furnace	1
Sparks from stove	2
Sparks from stove falling on waste-paper	1
Spontaneous combustion	24
Steam-pipe in contact with wood-work	3
Stove-funnel in contact with wood-work	8
Stove in contact with rags	1
Stove in contact with wood-work	1
Water-pipes, thawing out	7
Wood-casing of overheated boiler	1

THE INSPECTION OF BUILDINGS.

The number of violations that have been investigated and reported on is 1,872.

The following statement exhibits the nature of these violations : —

Violations of the statutes	1,748
“ “ ordinances	124
	<hr/>
Total	1,872

Addition exceeding height	2
Addition exceeding size	1
Bay-windows projecting over street	4
Building projecting over line of street	1
Buttresses projecting over line of street	1
Chimney supported by wood-work	12
Columns too far apart on centres	1
Combustible material	1
Combustible roofing material	1
Defective conductor	3
Defective foundation	3
Dry foundation	3
Exceeding range	2
Fire-escape, none	295
Flues not plastered	35
Flues, wood-work against	38
Framing improper	14
Girder, no plate under	1
Hot-air pipes, wood-work against	36
Improper construction	16

Carried forward,

470

<i>Brought forward,</i>	470
Increasing height of an 8-inch brick wall	1
Insufficient egress	7
Insufficient support	1
Leaky roof	1
Lintels wooden	1
Material poor	3
No conductor	6
No metal-covered doors	2
No metal collar or soapstone	1
No notice	10
No permit	77
No lintel	1
No rails	834
No traps	341
No tie-irons	1
No stirrup-irons	2
No trimmer-arch	1
No rebated iron frames	1
Piers not capped	2
Piles not cut at grade	1
Register boxes not cased	30
Register boxes too near wood-work	2
Scuttles and ladders, none	30
Steps projecting over line of street	4
Smoke-pipe too near ceiling	1
Sills below grade	1
Timber small-sized	5
Thimbles improperly set	1
Traps left open	5
Unsafe fireplace	1
Unsafe thimble-setting	1
Violating of conditions of street permits	1
Violating conditions of building permits	8
Walls not thick enough	7
Walls not through roof	1
Wooden building in limits	7
Wooden building increased in height in limits	1
Wood-work too near grate	1
Wooden bay-window on 3d story	1
Total	1,872

Unsafe building	60
“ boat-landing	1
“ clothes-shed	2
“ clothes-shed-rail	1
“ coal-shed	1
“ coping	1
“ cornice	2
“ ell	1
“ elevator	1
“ external wall	2
“ fence	1
“ floor	9
“ foundation	10
“ foundation-wall	7
“ gable-wall	1
“ gutter	3
“ gutter-stone	1
“ observation stand	1
“ party-wall	8
“ pier	1
“ post foundation	1
“ retaining-wall	2
“ roof	1
“ shafting	1
“ shed-steps	1
“ sign on roofs	1
“ stairs	2
“ stair-rail	1
“ stair-way	4
“ stone column	1
“ tenont	1
“ tower	1
“ truss	1
“ walls	32
“ yard-walls	2
Defective conductor	6
Defective gutter	5
Total	<hr/> 179

The following Table shows the Number of Unsafe Buildings, Walls, Chimneys, etc., reported on as rebuilt, secured, etc.

	Rebuilt.	Secured or repaired.	Taken down.	Not reported on.	Total.
Unsafe buildings		13	11	36	60
“ boat-landing				1	1
“ clothes-shed	1	1			2
“ clothes-shed rail				1	1
“ coal-shed				1	1
“ coping				1	1
“ cornice		1		1	2
“ ell				1	1
“ elevator		1			1
“ external wall				2	2
“ fence				1	1
“ floor	4	3		2	9
“ foundation	3	3		4	10
“ foundation-wall	2		N.C. 1	4	7
“ gable-wall				1	1
“ gutter				3	3
“ gutter-stone				1	1
“ observation stand				1	1
“ party-wall	1	1		6	8
“ pier		2		1	3
“ post foundation		1			1
“ retaining-wall	2				2
“ roof				1	1
“ shafting		1			1
“ shed-steps				1	1
“ sign on roof			1		1
“ stairs				2	2
“ stair-rail		1			1
“ stair-way		2		2	4
“ stone column				1	1
“ tenont		1			1
“ tower			1		1
“ truss				1	1
“ walls	3	4	N.C. 1	24	32
<i>Carried forward . . .</i>	16	35	15	100	166

Unsafe Buildings, Walls, etc. — Continued.

	Rebuilt.	Secured or Repaired.	Taken down.	Not re- ported on.	Total.
<i>Brought forward . . .</i>	18	35	15	100	166
Unsafe yard-walls	1	1	. . . . .	. . . . .	2
“ heating-apparatus		21	8	17	46
Defective conductor				6	6
“ gutter				5	5
“ flues	1	1	. . . . .	4	6
Dangerous chimneys . . .	94	43	6	161	304
Totals	112	101	29	293	535

HOIST-WAYS AND ELEVATORS.

The attention of this department has, to a considerable extent, necessarily been directed to the inspection of hoist-ways and elevators. The large increase in their number since the fire of 1872, the increased height of buildings now being erected, the introduction of elevators into classes of buildings heretofore not generally provided with them, such as hotels, family hotels, operative and public buildings, and the especial danger from accident, and the extension of fire in their use, indicate that more than ordinary attention should be given them.

The requirements are few and simple: a railing, trap-doors, and trap-doors closed, except when in actual use by the occupants of the building. It was supposed at the time of the passage of the act governing hoist-ways and elevators that its provisions would cover all cases that would arise; but that expectation has not been wholly realized, non-compliance often arising from ignorance, negligence, or design, according to the character of the individual.

“There are few provisions of the building law more important than this one. When it is considered that, for protective purposes in case of fire, the floors of our buildings are so constructed as to make only an apparent separation of the stories, and that, with a large flue extending from the basement of a building to the roof, and the building stored with large amounts of combustible material, it becomes especially dangerous in case of a fire occurring in it, which, instead of being temporarily confined to the story in which it originated, spreads at once throughout the building, imper-

illing, to a greater or less extent, all surrounding buildings; and when the number of firemen whose lives have been lost, or who have been seriously injured by entering these or adjoining buildings having unprotected hoist-ways, is also considered, the simple requirements of rails and of closed trap-doors during non-business hours are not to be considered onerous or burdensome, and any neglect to make them conform to legal requirements no excuse for an exemption from the prescribed penalty."

In view, then, of their rapid and general introduction into various classes of buildings, and the unsafe consequences thereto attendant from those not properly protected, appropriate additional legislation in the matter of their regulation seems imperative.

The total number of examinations that have been made is	291
The number of hoist-way and elevator openings unprovided with trap-doors	341
The number of hoist-way and elevator openings unprovided with a railing	834
The number of trap-doors left open when not in actual use	3

VICLATIONS OF THE BUILDING-LAW PLACED ON FILE FOR PROSECUTION.

Building No. 120 Pearl street.—The complaint was for leaving trap-doors open between 6 and 7 A.M., Feb. 8, and when not in actual use. The case was settled upon payment of fine.

Building No. 25 Haverhill street.—The complaint was for leaving trap-doors open at 8.54 P.M., July 5, and when not in actual use. The case was settled upon payment of fine.

Building Nos. 66 and 68 Haverhill street.—The complaint was for leaving trap-doors open between 12 and 1 A.M., July 16, and when not in actual use. The case was settled upon payment of fine.

PERMITS FOR THE OCCUPANCY OF STREETS.

The number of permits that have been issued to occupy streets for building purposes is as follows:—

Street permits in force January 1, 1881	1,190
Street permits issued during the year	1,405
Total	2,595

Street permits issued during the year 1880, and cancelled during the year 1881	1,190
Street permits issued and cancelled during year 1881,	1,230
Street permits revoked	13
Street permits in force December 31, 1881	162
<hr/>	
Total	2,595

January 5, 1881.—D. M. Garrett, while employed making alterations on building No. 32 to 33 South Market street, stepped upon a temporary covering over stairway opening in fourth story, consisting of light boards, which gave way, not being properly supported. He, fortunately, sustained but slight injuries, although falling to the second floor.

February 4, 1881.—Mr. Johnson and others were repairing elevator in building No. 637 Main street; the iron rope which runs elevator became detached from wheel in the basement floor, causing the rope which hoists elevator to become entangled on wheel at roof, so that elevator did not run freely. Mr. Johnson jumped on the elevator, causing it to fall fifteen feet, when the rope became tight, checking the fall of the elevator, bringing the rope against sharp edge of the drum of the windlass with such force as to cut the rope, causing elevator to fall into cellar.

February 5, 1881.—Mrs. Ellen Kane, residing 45 Portland street, stepped upon balcony of fire-escape, and leaning over same lost her balance and fell ten feet ten inches into street, striking on her head, fracturing her skull. She was removed to the Massachusetts General Hospital, where she died.

Mr. Charles Kieley, while loading elevator in building 79 to 81 Summer street, on the fifth floor, stepped on the car, allowing it to descend unchecked. The velocity of the car caused the counterbalance weight to ascend and strike against the pulley, which broke and fell. Mr. Kieley, when taken from the car at the bottom of the elevator-way, was found to be injured, but not seriously.

January 10, 1881.—Willard A. Sherman, while at work shoeing horses, No. 22½ Pitts street, had his foot injured by the falling of loose bricks from the chimney, through the skylight.

Mr. John Tolan and Patrick Ryan, while employed taking down building on Charlestown street, corner Cooper street, on second floor, were injured by the falling of one of the piers of the external wall, crushing through the second floor, and carrying said Ryan and Tolan down to the first floor. Tolan was seriously injured, Ryan slightly bruised.

J. Conners, while employed with others laying the foundation of Massachusetts Charitable Mechanic Association building, located on Huntington avenue and West Newton street, was injured by the breaking of the derrick, which fell and struck him on the head. He was picked up insensible, taken to the City Hospital, where he died from his injuries.

At the same location and same day a fireman on one of the locomotives on Boston & Providence R.R., while endeavoring to switch a car from one track to another without aid, by attaching a rope to the engine and car, was unable, on account of the speed attained, to disconnect the rope from the locomotive in time to allow the car to proceed unhindered; in consequence, four posts, supporting a platform which divided the two tracks, were pulled down, letting the floor on same fall. Mr. Lothrop and a boy, who were standing on platform at the time, fell to the ground below, twenty feet, but received no injury.

May 24, 1881.—In building located 89 Broad street, Mr. Meserve, while standing near an elevator-way in conversation with William H. Henry, either became dizzy or stepped backwards, and fell through elevator-way, from second floor to cellar, a distance of 26 feet. The chain was not placed across the elevator at the time. Mr. Meserve was carried to the City Hospital, where it was found that one leg was broken.

June 10, 1881.—In building located No. 3 Winthrop square, and 13 and 14 Otis street, a girl, 14 years of age, named Josephine Enos, ascended to the fifth floor on the freight elevator, which she left on reaching the said floor, without stopping the car. The door enclosing the elevator shaft being closed, she was left standing on the threshold, from which she fell to the bottom of the elevator shaft, about 60 feet. She was dead when found.

William Higgins, a laborer in building No. 5 Union wharf, while in the act of raising the trap-door of hoist-way, fell through the same, from the third to the first floor, injuring him somewhat, but breaking no bones.

Anthony Cuffe, the boy who runs the elevator in Tremont House, Tremont street, corner Beacon street, was injured by being jammed between the floor of elevator and ceiling of second floor, in attempting to get on to the elevator after it had started. He was taken to the City Hospital, where he died from his injuries.

June 22, 1881.—Michael Morgan, a laborer employed at Jordan, Marsh & Co.'s building, 55 Bedford street and 69 Kingston street, was injured by falling from the street plat-

form to the bottom of the elevator shaft, a distance of 15 feet, while stepping backwards with a truck, after the elevator had ascended, leaving the same open and unguarded. Mr. Morgan died from his injuries.

At the Revere House, Bowdoin square, while the elevator was ascending it fell from third floor ; the occupants, Mrs. Maurice McGraw and her daughters, were injured. Mrs. McGraw, who was standing in the elevator, received the entire concussion, breaking one of her legs ; Miss Cora had one of her ankles badly sprained, and Miss Louisa received slight bruises.

William Allston, a painter employed on building of Massachusetts Charitable Mechanics' Association, located on Huntington avenue and West Newton street, was slightly injured by falling from a staging some 20 feet.

At a fire in building Nos. 120-124 Tudor street, a fireman, Mr. Charles A. Smith, was seriously injured by falling through an elevator opening from the second floor to basement, a distance of 21 feet. The elevator was properly protected by rails, but had no trap-doors. The rails were partially burned when Mr. Smith fell.

October 27.—Maurice Healy, employed at 87 and 89 Commercial street, stepped into the elevator opening, and fell through from the first floor to the cellar below, a distance of 10 feet. He was carried to the City Hospital, where he died, his skull having been fractured by the fall.

William Park and Augustus Dyer, while at work building a chimney on premises East First street, corner of O street, fell from the staging to the basement, a distance of 35 feet, and received serious injuries.

September 14, 1881.—Francis A. Chandler, at work cutting an opening through the external wall of a building on Foundry street, near Swan street, was killed by a portion of the wall falling on him.

William J. Atkinson, one of the call-boys of the Adams House, No. 555 Washington street, was injured slightly by being caught between the elevator car and the ceiling while attempting to look out of the car while it was in motion.

Samuel Lowe, at work in the upper story of building 98 Canal street, started to get on the elevator, which he thought was at that floor ; he stooped under the rail, stepped off, and fell. The car was ascending ; he struck the cross-head of the elevator and was killed instantly.

John Tracy, a young man employed in building 115 Congress street, stepped backwards into the elevator well and fell on to the car, which was descending. Slightly injured.

A person, unknown, mistook the door to elevator of 106 Union street for front entrance to 110 Union street ; opening the door, he walked into the elevator-way and fell to the cellar floor below. Slightly injured.

July 12, 1887.—While Thomas Roach and Richard Powers were descending from the fifth story in the elevator in building Nos. 141 and 143 Richmond street, the car fell three stories. The men were not seriously injured.

